

Amendments to the Claims

1. (CURRENTLY AMENDED) A method of producing an electronic device (1) comprising a plurality of electro-optical elements on a surface of a carrier (10), the method comprising the steps of:
 - depositing a plurality of discrete droplets of a first liquid on the carrier surface, the first liquid comprising a mixture of a first electro-optical material (102) and a first polymer precursor (104); and
 - forming the plurality of electro-optical elements by exposing the plurality of discrete droplets to a stimulus for polymerizing the polymer precursor (104) of a discrete droplet (100) of the first liquid into a discrete polymer layer (114) enclosing the first electro-optical material (102) of the discrete droplet (100) between said polymer layer (114) and the carrier surface.
2. (CURRENTLY AMENDED) A method as claimed in claim 1, wherein a discrete droplet (100) of the first liquid is formed by depositing a plurality of smaller droplets of the first liquid over a same respective part of the electrode structure (12).
3. (CURRENTLY AMENDED) A method as claimed in ~~claim 1 or 2~~claim 1, wherein the step of depositing a plurality of discrete droplets is preceded by modifying the carrier surface by depositing an electrode structure (12) on the carrier surface.
4. (CURRENTLY AMENDED) A method as claimed in ~~claim 1, 2 or 3~~claim 1, wherein the step of depositing a plurality of discrete droplets is preceded by modifying the carrier surface by depositing an orientation layer (16) on the carrier surface.
5. (CURRENTLY AMENDED) A method as claimed in ~~any of the claims 1-4~~claim 1, wherein the step of depositing the plurality of discrete droplets is preceded by the step of depositing a pattern of wall structures (202) on the carrier surface for creating a plurality of bordered domains on the carrier surface, a droplet (100) from the plurality of discrete droplets being deposited in such a bordered domain.

6. (CURRENTLY AMENDED) A method as claimed in ~~any of the claims 1-4~~claim 1, wherein the step of depositing a plurality of discrete droplets is preceded by the step of depositing a plurality of regions ~~(302)~~ of a nonwetting material on the carrier surface.

7. (CURRENTLY AMENDED) A method as claimed in claim 6, wherein, before depositing the plurality of discrete droplets, the substrate carrier surface is provided with a plurality of first regions functionalized for selective accumulation of polymer material and a plurality of second regions functionalized for selective accumulation of the electro-optical material ~~(102)~~, respective first regions being provided between respective second regions and respective regions ~~(302)~~ of a non-wetting material.

8. (CURRENTLY AMENDED) A method as claimed in ~~any of the preceding claims~~claim 1, wherein the first electro-optical material ~~(102)~~ comprises a liquid crystal material.

9. (CURRENTLY AMENDED) A method as claimed in ~~any of the preceding claims~~claim 1, wherein the first liquid comprises a first colorant which, during formation of the plurality of electro-optical elements, selectively accumulates in the polymer layer.

10. (ORIGINAL) A method as claimed in claim 9, wherein the first colorant is functionalized with reactive groups adapted to react with the first polymer precursor during formation of the plurality of electro-optical elements.

11. (CURRENTLY AMENDED) A method as claimed in claim 10, wherein the first colorant is ~~(co)~~ polymerizable to form a polymer of the discrete polymer layer.

12. (CURRENTLY AMENDED) A method as claimed in ~~any of the preceding claims~~claim 1, further comprising the steps of:

- depositing a plurality of discrete droplets of a second liquid on the carrier surface, the second liquid comprising a mixture of a second electro-optical material ~~(122)~~ and a second polymer precursor ~~(124)~~; and
- forming a further plurality of electro-optical elements by exposing the plurality of discrete droplets of the second liquid to a second stimulus for polymerizing the second polymer precursor ~~(124)~~ into a further discrete polymer layer ~~(134)~~ enclosing the second electro-optical material ~~(122)~~ between said further polymer layer ~~(134)~~ and the carrier surface.

13. (ORIGINAL) A method as claimed in claim 12, wherein the step of depositing a plurality of discrete droplets of a first liquid on the carrier surface and the step of depositing a plurality of discrete droplets of a second liquid on the carrier surface are executed substantially in parallel.

14. (CURRENTLY AMENDED) A method as claimed in ~~any of the preceding claims~~ claim 1, wherein the second electro-optical material ~~(122)~~ comprises a further liquid crystal material.

15. (CURRENTLY AMENDED) A method as claimed in ~~any one of the claims 12, 13 or 14~~ claim 12, wherein the second liquid comprises a second colorant which, during formation of the plurality of electro-optical elements, selectively accumulates in the further polymer layer and has a color which is different from that of the first colorant.

16. (ORIGINAL) A method as claimed in claim 15, wherein the second colorant is functionalized with reactive groups adapted to react with the second polymer precursor during formation of the plurality of electro-optical elements.

17. (CURRENTLY AMENDED) A method as claimed in claim 16, wherein the second colorant is ~~(ee)~~ polymerizable to form a polymer of the further polymer layer.

18. (CURRENTLY AMENDED) A method as claimed in ~~any of the preceding~~
~~claims~~claim 1, further comprising the step of depositing a further electrode structure
(3) on a polymer layer (~~114, 134, 154~~) of the plurality of electro-optical elements.

19. (CURRENTLY AMENDED) A method as claimed in ~~of the preceding~~
~~claims~~claim 1, further comprising the step of covering the plurality of electro-optical
elements with a light reflecting coating.

20. (CURRENTLY AMENDED) A method as claimed in ~~any of the preceding~~
~~claims~~claim 1, the method further comprising the step of adding a light-polarizing
layer (~~14~~) to the carrier (~~10~~); the light-polarizing layer (~~14~~) being arranged
substantially parallel to the carrier surface.

21. (CURRENTLY AMENDED) A method as claimed in ~~any of the preceding~~
~~claims~~claim 1, further comprising the step of covering the plurality of electro-optical
elements with a planarization layer (~~24~~).

22. (CURRENTLY AMENDED) A method as claimed in ~~any of the preceding~~
~~claims~~claim 1, further comprising the step of providing a further surface of the carrier
with an adhesive layer.

23. (CURRENTLY AMENDED) A method of producing an electronic device
(700) comprising a display area (~~722, 724~~) on a part of a surface of a carrier (~~10~~)
carrying an electrode structure (~~12~~); the method comprising the steps of:

- dripping a first liquid on the part (~~722, 724~~) of the carrier surface, the first
liquid comprising a mixture of a first electro-optical material (~~102~~) and a first polymer
precursor (~~104~~);
- and
- forming the display area by exposing the first liquid to a stimulus for
polymerizing the polymer precursor (~~104~~) into a discrete polymer layer (~~114~~)
enclosing the first electro-optical material (~~102~~) between said polymer layer (~~114~~) and
the carrier surface.

24. (CURRENTLY AMENDED) A method as claimed in claim 23, further comprising the step of bordering the part (~~722, 724~~) of the carrier surface with a dewetting material prior to the dripping of the first liquid on the part of the carrier surface.
25. (CURRENTLY AMENDED) A method as claimed in ~~claim 23 or 24~~claim 23, further comprising the step of providing a further surface of the carrier (~~10~~) with an adhesive layer (~~750~~).
26. (CURRENTLY AMENDED) A method as claimed in claim 25, further comprising the step of integrating a power supply into the carrier (~~10~~).
27. (CURRENTLY AMENDED) A method as claimed in claim 25, further comprising the step of providing the further surface with a conductive contact, the conductive contact being conductively coupled to the electrode structure (~~12~~).
28. (CURRENTLY AMENDED) An electronic device (~~1~~) comprising:
a carrier (~~10~~) having a surface; and
a plurality of electro-optical elements positioned on the carrier surface, each of the electro-optical elements (~~110~~) comprising a discrete polymer layer (~~114~~) enclosing a first electro-optical material (~~102~~) between said polymer layer (~~114~~) and the carrier surface.
29. (CURRENTLY AMENDED) An electronic device (~~1~~) as claimed in claim 28, wherein the carrier surface comprises an electrode structure (~~12~~).
30. (CURRENTLY AMENDED) An electronic device (~~1~~) as claimed in ~~claim 28 or 29~~claim 28, wherein the carrier surface comprises an orientation layer (~~16~~).
31. (CURRENTLY AMENDED) An electronic device (~~1~~) as claimed in ~~claim 28, 29 or 30~~claim 28, wherein the electronic device further comprises a pattern of wall structures (~~202~~) for creating a plurality of bordered domains on the carrier surface; an

electro-optical element ~~(110)~~ from at least a part of the plurality of electro-optical elements occupying such a bordered domain.

32. (CURRENTLY AMENDED) An electronic device ~~(1)~~ as claimed in ~~claim 28, 29 or 30~~claim 28, wherein the plurality of electro-optical elements are separated from each other by means of nonwetting regions ~~(302)~~ on the carrier surface.

33. (CURRENTLY AMENDED) An electronic device ~~(1)~~ as claimed in claim 32 wherein the substrate carrier surface is provided with a plurality of first regions functionalized for selective accumulation of polymer material and a plurality of second regions functionalized for selective accumulation of the electro-optical material ~~(102)~~, respective first regions being provided between respective second regions and respective regions ~~(302)~~ of a non-wetting material.

34. (CURRENTLY AMENDED) An electronic device ~~(1)~~ as claimed in ~~any of the claims 29-33~~claim 29, wherein the first electro-optical material ~~(102)~~ comprises a liquid crystal material.

35. (CURRENTLY AMENDED) An electronic device ~~(1)~~ as claimed in ~~any of the claims 29-33~~claim 29, wherein the discrete polymer layer ~~(114)~~ comprises a first colorant.

36. (CURRENTLY AMENDED) An electronic device ~~(1)~~ as claimed in claim 35 wherein the first colorant is chemically bonded to a polymer of the discrete polymer layer.

37. (CURRENTLY AMENDED) An electronic device ~~(1)~~ as claimed in claim 36 wherein the first colorant is ~~(e0-)~~ polymerized to form a polymer of the discrete polymer layer.

38. (CURRENTLY AMENDED) An electronic device ~~(1)~~ as claimed in ~~any of the claims 32-37~~claim 32, the electronic device further comprising a plurality of further electro-optical elements positioned over further respective parts of the electrode

structure ~~(12)~~, each of the further electro-optical elements ~~(130)~~ comprising a further discrete polymer layer ~~(134)~~ enclosing a second electro-optical material ~~(122)~~ between said second layer ~~(134)~~ and the carrier surface.

39. (CURRENTLY AMENDED) An electronic device ~~(1)~~ as claimed in ~~any of the claims 32-38~~ claim 32, wherein the second electro-optical material ~~(122)~~ comprises a further liquid crystal material.

40. (CURRENTLY AMENDED) An electronic device ~~(1)~~ as claimed in ~~any of the claims 38-39~~ claim 38, wherein the further discrete polymer layer ~~(134)~~ comprises a second colorant having a color different from that of the first colorant.

41. (CURRENTLY AMENDED) An electronic device ~~(1)~~ as claimed in claim 40 wherein the second colorant is chemically bonded to a polymer of the further discrete polymer layer.

42. (CURRENTLY AMENDED) An electronic device ~~(1)~~ as claimed in claim 41 wherein the second colorant is ~~(co)~~ polymerized to form a polymer of the further discrete polymer layer.

43. (CURRENTLY AMENDED) An electronic device ~~(1)~~ as claimed in ~~any of the claims 35-42~~ claim 35, wherein the plurality of electro-optical elements carry a further electrode structure ~~(32)~~.

44. (CURRENTLY AMENDED) An electronic device ~~(1)~~ as claimed in ~~any of the claims 35-43~~ claim 35, wherein the plurality of electro-optical elements are covered by a light reflecting coating.

45. (CURRENTLY AMENDED) An electronic device ~~(1)~~ as claimed in ~~any of the claims 35-44~~ claim 35, wherein the carrier comprises a light-polarizing layer.

46. (CURRENTLY AMENDED) An electronic device ~~(1)~~ as claimed in ~~any of the claims 35-45~~claim 35, wherein the plurality of electro-optical elements is covered by a planarization layer ~~(24)~~.

47. (CURRENTLY AMENDED) An electronic device ~~(1)~~ as claimed in ~~any of the claims 35-46~~claim 35, wherein the carrier ~~(10)~~ is flexible.

48. (CURRENTLY AMENDED) An electronic device ~~(1)~~ as claimed in ~~any of the claims 35-47~~claim 35, wherein the plurality of electro-optical elements are covering a predefined part of the carrier surface.

49. (CURRENTLY AMENDED) An electronic device ~~(1)~~ as claimed in ~~any of the claims 35-48~~claim 35, wherein the electronic device is a display device.

50. (CURRENTLY AMENDED) An electronic device as claimed in ~~any of the claims 35-49~~claim 35, wherein a further surface of the carrier carries an adhesive layer.

51. (CURRENTLY AMENDED) An apparatus ~~(600)~~ for producing an electronic device ~~(1)~~ comprising a plurality of electro-optical elements on a surface of a carrier ~~(10)~~, the apparatus ~~(600)~~ comprising:
receiving means ~~(620)~~ for receiving the carrier ~~(10)~~; and
depositing means ~~(640; 641; 642)~~ for depositing a plurality of discrete droplets of a liquid on the carrier surface ~~(12)~~, the liquid comprising a mixture of an electro-optical material ~~(102)~~ and a polymer precursor ~~(104)~~, the depositing means ~~(640; 641; 642)~~ being arranged opposite the receiving means ~~(620)~~ with at least one of the receiving means ~~(620)~~ and the depositing means ~~(640; 641; 642)~~ comprising mechanical translation means for changing an orientation of the depositing means ~~(640; 641; 642)~~ from over a first part of the carrier surface to an orientation over a second part of the carrier surface.

52. (CURRENTLY AMENDED) An apparatus ~~(600)~~ as claimed in claim 51, the apparatus ~~(600)~~ further comprising means for forming the plurality of electro-optical

elements by exposing the plurality of discrete droplets to a stimulus for polymerizing the polymer precursor ~~(104)~~ of a discrete droplet ~~(100)~~ of the liquid into a discrete polymer layer ~~(114)~~ enclosing the electro-optical material ~~(102)~~ of the discrete droplet ~~(100)~~ between said polymer layer ~~(114)~~ and the carrier surface.

53. (CURRENTLY AMENDED) An apparatus ~~(600)~~ as claimed in ~~claim 51 or 52~~claim 51, wherein the depositing means ~~(640; 641; 642)~~ comprise a printing head ~~(641)~~ having a plurality of nozzles ~~(642)~~.

54. (CURRENTLY AMENDED) An apparatus ~~(600)~~ as claimed in claim 53, wherein a first subset of the plurality of nozzles ~~(642)~~ is coupled to a reservoir for containing a first liquid comprising a mixture of a first electro-optical material ~~(102)~~ and a first polymer precursor ~~(104)~~ and a second subset of the plurality of nozzles ~~(642)~~ is coupled to a reservoir for containing a second liquid comprising a mixture of a second electro-optical material ~~(122)~~ and a second polymer precursor ~~(124)~~.